

REMARKS

Claims 1-25 are pending in the present application. Claims 1-25 have been examined, claims 1-15 and 18-25 are rejected, and claims 16 and 17 are allowed. In the above amendments, claims 1, 5, 6 and 20-25 have been amended, and new claims 26-32 have been amended. Therefore, after entry of the above amendments, claims 1-32 will be pending in this application. Applicant believes that the present application is now in condition for allowance, which prompt and favorable action is respectfully requested.

Allowed Claims 16 and 17

Applicant notes with appreciation the allowance of claims 16 and 17.

Rejection of Claims 1-15 and 18-25 Under 35 U.S.C. §102(e)

Claims 1-15 and 18-25 stand rejected under 35 U.S.C. §102(e) as being anticipated by Shiu *et al* (U.S. Patent No. 6,983,166).

In WCDMA, a physical channel can carry N transport channels, where N can be greater than one. Each transport channel may be associated with a respective block error rate (BLER) target and a respective SIR target. (See paragraph [1042].) In WCDMA, power control is performed on the physical channel and not on the transport channels. (See paragraph [1005].) For power control, a received SIR of the physical channel is compared against an SIR target for the physical channel, and a transmit power control (TPC) command is generated based on the comparison result. (See paragraph [1037] and FIG. 4).

The SIR target for the physical channel may be determined using one of the following schemes:

Scheme 1. Maintain an individual SIR target for each of the N transport channels. Adjust the individual SIR target for each transport channel based on transport blocks received on that transport channel. Then use the largest individual SIR target for all N transport channels as the SIR target for the physical channel.

Scheme 2. Maintain a single SIR target for all N transport channels. Adjust this single SIR target based on transport blocks received on active transport channels. Then use this single SIR target as the SIR target for the physical channel.

Scheme 1 is disclosed by Shiu and is also discussed in paragraph [1006] of the present application. Scheme 2 is disclosed in the present application. These two schemes may seem similar but may provide very different performance. For example, if the transport channel with the highest SIR target is inactive or intermittently active, then scheme 1 will continually use this highest SIR target as the SIR target for the physical channel, and high/excessive transmit power would then be used for the physical channel. (See paragraph [1007].) Scheme 2 can avoid this situation since the single SIR target for all transport channels is adjusted based on active transport channels.

Claim 1 of the present application, as amended, recites:

“A device in a wireless communication system, comprising:
a data processor operative to process at least one data block, received in a current update interval and on at least one transport channel among a plurality of transport channels, and to provide a status of each of the at least one data block; and
a controller operative to maintain a single signal quality (SIR) target for the plurality of transport channels, without maintaining an individual SIR target for each transport channel, to adjust the single SIR target based on the status of the at least one data block received in the current update interval, and to use the single SIR target for power control of data transmission on the plurality of transport channels.”

Applicant submits that claim 1 is not anticipated by Shiu for at least the following reasons.

First, Shiu does not disclose “a controller operative to maintain a single signal quality (SIR) target for the plurality of transport channels,” as recited in claim 1. The rejection indicates that Shiu discloses maintaining a target SNIR (singular) and comparing the received signal quality against the target SNIR in column 8, lines 33-46 and FIG. 5. However, this target SNIR is for the physical channel and not for the plurality of transport channels. As discussed above, power control is performed on the physical channel based on the target SNIR for the physical channel.

Second, Shiu does not disclose “a controller operative to maintain a single signal quality (SIR) target for the plurality of transport channels, without maintaining an individual SIR target for each transport channel,” as recited in claim 1. Shiu discloses maintaining a separate/individual target SNIR for each transport format of each transport channel. FIG. 7

of Shiu shows a loop composed of blocks 716 to 742 being performed for each transport channel k to adjust the target SNIR for that transport channel k, which is denoted as $\text{SNIR}_{\text{TCk},\text{TFi}}(n+1)$ in blocks 722, 736 and 738. After the individual target SNIRs for all K transport channels have been adjusted, the largest individual target SNIR of all K transport channels is used as the target SNIR for the physical channel, which is denoted as $\text{SNIR}_{\text{ref}}(n+1)$ in block 744. FIG. 11 of Shiu similarly shows adjustment of the individual target SNIR for each transport channel k via a loop composed of blocks 1116 to 1142 and then using the largest individual target SNIR of all K transport channels as the target SNIR for the physical channel in block 1144. In Shiu, $\text{SNIR}_{\text{TCk},\text{TFi}}(n+1)$ is specific for each transport channel, as denoted by subscript “TCk” for transport channel k, with k being an index that runs from 1 to K (see block 712 in FIG. 7).

The feature “without maintaining an individual SIR target for each transport channel” recited in claim 1 is supported throughout the present application. In the present application, the single SIR target for all transport channels may be adjusted as shown in equation (1), (2), (8) or (11) and is denoted as $\text{SIR}_{\text{target}}(k+1)$, where k is an index for update interval. This $\text{SIR}_{\text{target}}(k+1)$ does not include an index for transport channel and is thus not specific to any transport channel. In contrast, in Shiu, the individual target SNIR for each transport channel k is adjusted in equation (1), (2), (3), (7) or (8) and is denoted as $\text{SNIR}_{\text{TCk},\text{TFi}}(n+1)$, where TCk is an index for transport channel k and n is an index for update interval. This $\text{SNIR}_{\text{TCk},\text{TFi}}(n+1)$ is thus for a specific transport channel.

Furthermore, FIG. 6 of the present application shows adjustment of the single SIR target after completing the processing for each transport channel. In FIG. 6, a loop composed of blocks 618 to 636 is performed for each transport channel (TrCh). No SIR target is adjusted within this loop. The single SIR target is adjusted in block 640 after completing the loop for all transport channels. In contrast, FIG. 7 of Shiu shows adjustment of the individual target SNIR for each transport channel, which is $\text{SNIR}_{\text{TCk},\text{TFi}}(n+1)$, in blocks 722, 736 and 738, which are within the loop performed for each transport channel k. FIG. 11 of Shiu similarly shows adjustment of the individual target SNIR for each transport channel in blocks 1122, 1136 and 1138 within the loop performed for each transport channel k.

In summary, Shiu discloses maintaining an individual target SNIR for each transport channel by (i) using notation $\text{SNIR}_{\text{TCk},\text{TFi}}(n+1)$ having subscript TCk for a specific transport channel k and (ii) showing adjustment of the individual target SNIR within the loop

performed for each transport channel. The present application discloses “without maintaining an individual SIR target for each transport channel” by (i) using notation $SIR_{target}(k+1)$ having no index for any specific transport channel and (ii) showing no adjustment of an individual target SNIR within the loop performed for each transport channel.

The rejection states that “the specification maintains an individual SIR target for each transport channel (see paragraph 0045).” Applicant assumes that there is a typo and paragraph 0045 actually refers to paragraph 1045. Paragraph 1045 states “a single SIR target is maintained for all of the transport channels carried by a physical channel, and this SIR target is adjusted based only on active transport channels.” This paragraph does not describe maintaining an individual SIR target for each transport channel.

Third, Shiu does not disclose “adjust the single SIR target based on the status of the at least one data block received in the current update interval,” as recited in claim 1. The single SIR target is for the plurality of transport channels and is adjusted in claim 1 based on data blocks received on these transport channels. In contrast, Shiu determines which transport channel each transport block is from and adjusts the individual target SNIR for this transport channel based on the status of the received block. This is shown, e.g., in blocks 718, 720 and 722 in FIG. 7 of Shiu.

For at least the above reasons, Applicant submits that claim 1 is not anticipated by Shiu. Independent claims 5, 6 and 20-25 each recites the features noted above for claim 1. Claims 2-4 are dependent on claim 1, and claims 7-15, 18 and 19 are dependent on claim 6. These claims are not anticipated by Shiu for at least the reasons noted for claim 1

Accordingly, the §102(e) rejection of claims 1-15 and 18-25 should be withdrawn.

Allowed Claims 26-32

New claims 26-29 are method claims corresponding to claims 1-4, respectively. New claims 30-32 are dependent on claim 22 and are method claims corresponding to claims 8, 10 and 14, respectively. New claims 26-32 should be patentable over Shiu for the reasons noted above.

CONCLUSION

In light of the above, Applicant submits that the application is in condition for allowance, for which early action is requested.

Please charge any fees or overpayments that may be due with this response to Deposit Account No. 17-0026.

Respectfully submitted,

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